

# DAM – C - 72

DIGITAL UNIVERSAL AMPERMETER (True RMS)

- ▶ With Demand
- ▶ Over & Under Current Adjustment



## General Informations

The device can be used in electrical panels, laboratories and test devices. With the assistance of a current transformer, it measures the AC current passing through the system in terms of Amper unite. When the current exceeds the adjusted over current or goes below the adjusted under current values the device starts to count for the adjusted delay time and after that it changes Re1 or Re2 outputs contact position. After energizing the device, "dA - c" message appears on it's screen for 2 seconds and then it starts to show the current value.

- The current transformer ratio can be adjusted between 5/5 and 10000/5 using the touch buttons on the front panel of the device.
- Stores the maximum demand value and the peak value on its memory and keeps these values even if the energy supply goes off.
- When the measured value of the seconder current reaches 5,1 A, "OvEr" message starts to flash on the screen to warn the user that the value of the current exceeded the limit values

### Fast Buttons:

*While in measurement screen, pressing up button shows the peak value*



*Pressing down button shows the maximum demand value*



### Main Menu :

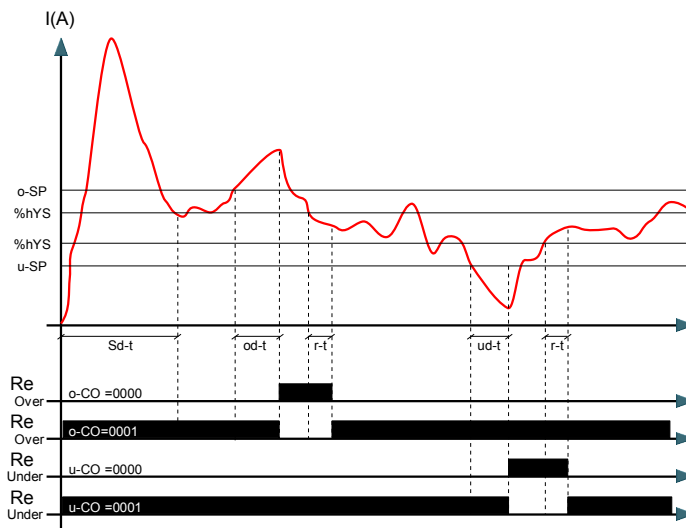
Pressing on the set button leads to the main menu. The menu contains **o-OP**, **u-OP**, **CLr**, **SET** and **quit** in order.

- ▶ **OP :** Shows the opening counter " that occurs when the adjusted over current values being exceeded
- ▶ **CLr :** Peak and maximum demand values can be cleared in this menu. To enter this menu, set button must be pressed. **cALL**, **c-OP**, **c-dp** and **quit** submenus are included within this menu.
  - ▶ **cALL :** It is used to clear all peak, maximum demand and opening counter values by pressing the set button.
  - ▶ **c-OP :** It is used only to clear the opening counter value.
  - ▶ **c-dp :** It is used only to clear the peak and the maximum demand values.
  - ▶ **quit :** To exit the submenus and return back to the main menu.
- ▶ **Set :** The menu that parameters can be adjusted in. to enter this menu set button must be pressed. **ctrF**, **o-SP**, **u-SP**, **hYS**, **od-t**, **ud-t**, **Sd-t**, **r-t**, **dd-t**, **o-CO**, **u-CO**, **LtCh**, **tP**, and **quit** submenus are included within this menu. These parameters will flash on the screen. In order to change any of them set button must be pressed, then the screen will stop flashing and using the direction buttons the new value can be applied. Pressing the set button again would store this value.
  - ▶ **ctrF : Current transformer ratio.** It can be set between 5 and 10000. In order to set the value, set button must be pressed then using the direction button the aimed value can be set. Pressing set again would store the new value.
  - ▶ **o-SP : Over current value set menu.** It can be set between the maximum current allowed for the current transformer and %10 of the that value. For example for 500/5A transformer, it can be set between 50 and 500A.
  - ▶ **u-SP : Under current value set menu.** It can be set between the maximum current allowed for the current transformer and %10 of the that value.
  - ▶ **hYS : The percentage Hysteresis value.** It can be adjusted between 0,03 and 0,50. When the current exceeds the adjusted over current value then an opening occurs. Inorder to close the output contact again, the current must go below the adjusted over current value multiplied by the %hYS, otherwise it will keep the output open.
  - ▶ **od-t : Delay time for over current alarm.** It can be adjusted between 1 and 30 seconds. The opening of current exceeding adjusted current limit occurs after this delay.
  - ▶ **ud-t : Delay time for under current alarm.** It can be adjusted between 1 and 30 seconds. The opening of current exceeding

- adjusted current limit occurs after this delay.
- ▶ **Sd-t : Start delay time.** It can be set between 0 and 60 seconds. It is used to prevent any unwanted opening while current is starting from 0 " especially for motors that need high current for start up". In this period opening wouldn't occur even if the current exceeds the adjusted over current value. If this value is set to "0000" the device will wait for the delay time d-t and then opens its output.
- ▶ **r-t : Return time.** The time required to turn back from an alarm situation. The device waits for that period after the current returns below the adjusted value. It can be set between 2 and 10 seconds.
- ▶ **dd-t : Demand time.** The time required to return back from an alarm. The device waits for that period after the current returns below the adjusted over current limit value. It can be set between 2 and 10 seconds.
- ▶ **o-CO :** The menu to adjust the over current output contact position.
  - if the value is set to 0000 then the output in normal situation is closed contact and in over current alarm situation is open contact.
  - if the value is set to 0001 then the output in normal situation is open contact and in over current alarm situation is closed contact.
- ▶ **u-CO :** The menu to adjust the under current output contact position.
  - if the value is set to 0000 then the output in normal situation is closed contact and in under current alarm situation is open contact.
  - if the value is set to 0001 then the output in normal situation is open contact and in over current alarm situation is closed contact.
- ▶ **LtCh : Latch function.** The place to choose wether the device will go out of an alarm manually or automatically
  - if the value is set to 0000 then the latch function is off and the device will go out of the alarm automatically
  - if the value is set to 0001 then the latch function is on and the device wouldn't go out of the alarm unless the user presses the set button until the alarm led turns off. If pressed, then device then will go out of the alarm after the delay time r-t.
- ▶ **tP :** Sudden opening function. If the current goes over %150 of the adjusted over current value the the device will open its output without any delay.
  - if 0000 then the function is disabled .
  - if 0001 then the function is enabled. ( not active while start delay time (Sd-t)).
- ▶ **quit :** Pressing set leads to the main menu.
- ▶ **quit :** Pressing set leads to the measurement screen.

### Button Functions :

To enter the menu set button must be pressed. Within the menu, the parameters can e reached using the direction buttons. To inter the desired menu set button must be pushed again. This parameters can be adjusted using the direction buttons, pressing the set button again stores the new parameters.



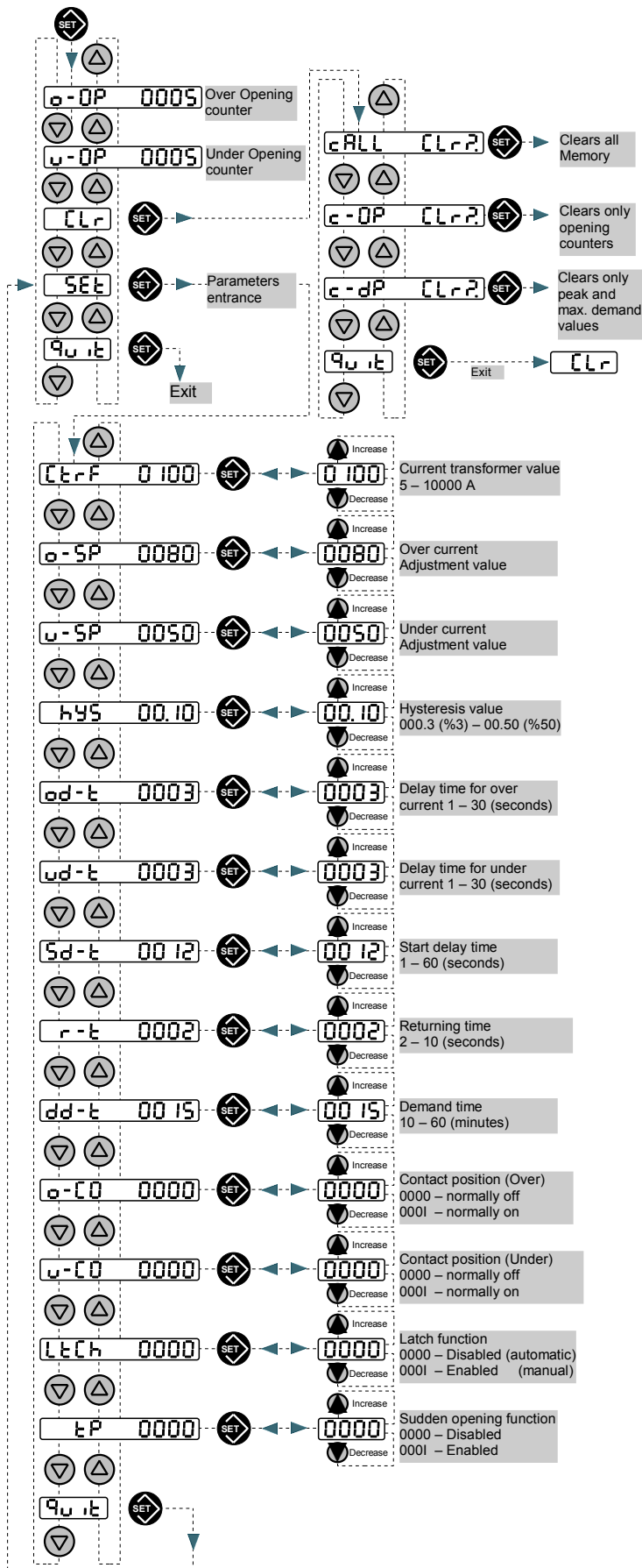
### Technical Data

Operational Voltage (Un)	: 220Vac
Operating range	: (0,8-1,1) x Un
Frequency	: 50/60 Hz
Power Consumption	: < 4VA
Measurement Sensitivity	: %1 + 1 digit
Current Transformer Ratio	: 5/5.....10000/5 A
Display	: 4 Digits Led Display
Contact Current	: Max. 3A / 240Vac
Protection Class	: IP 20
Terminal Protection Class	: IP 00
Operating Temperature	: - 5 °C .... + 50 °C
Operating Humidity	: %15 ..... %95 (without condensation)
Installation	: to the panel tap
Dimentions	: 72x72x80 mm

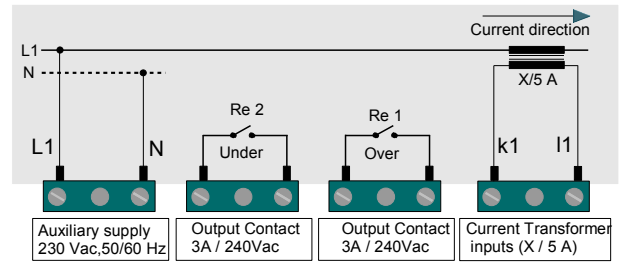
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## Connection Scheme:



### Warning !!!

- The message Err1 or Err2 on the screen means that the device has got a failure
- Can not be used without current transformer, a current that is higher than 5 A passing through the measurement inputs may damage the device.
- Clean the device using dry dust cloth after de-energizing the device.
- o-SP and u-SP must be set as shown in the graphic below without having any intersection, otherwise Error message will show on the screen.